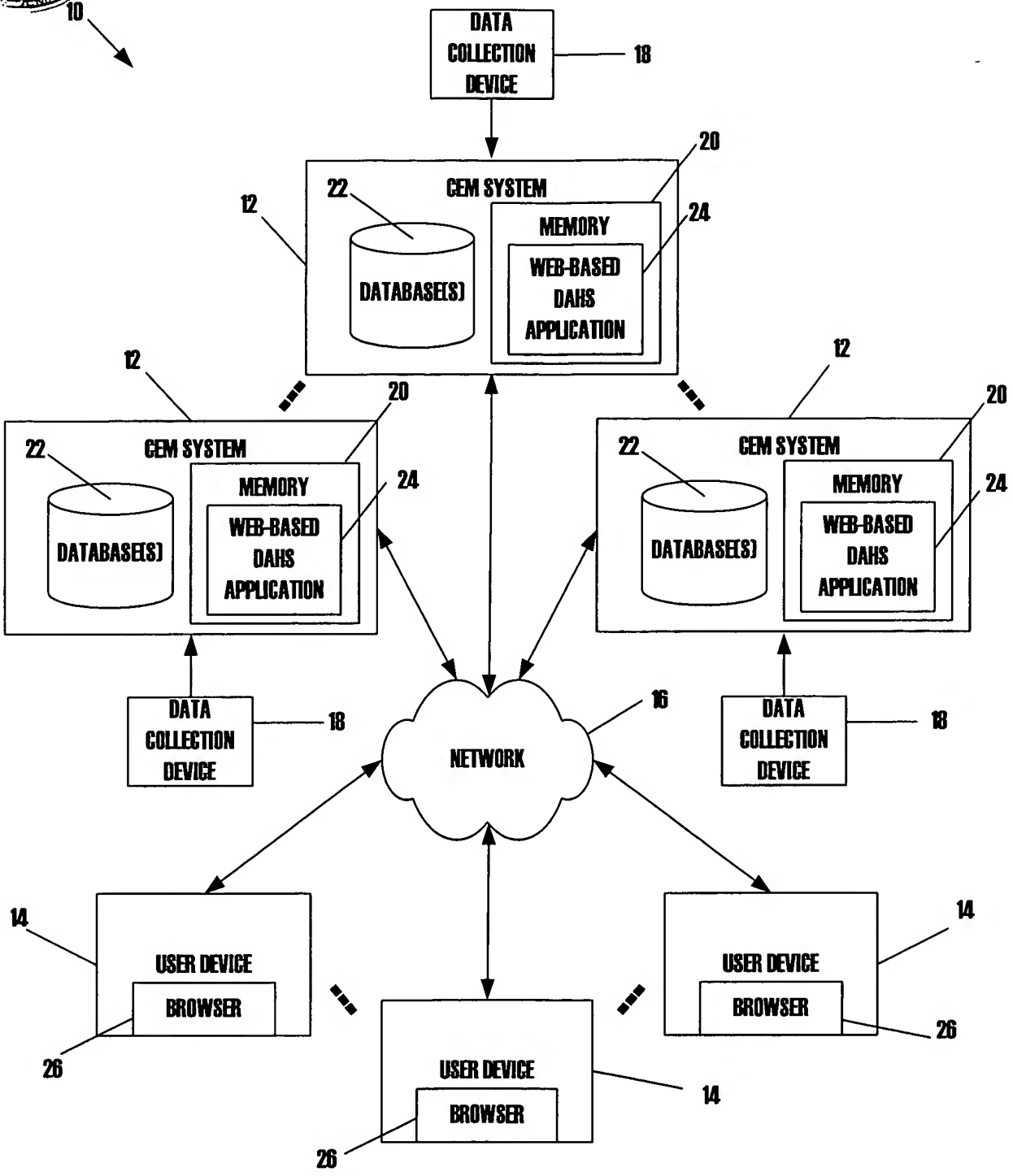


FIG. 1

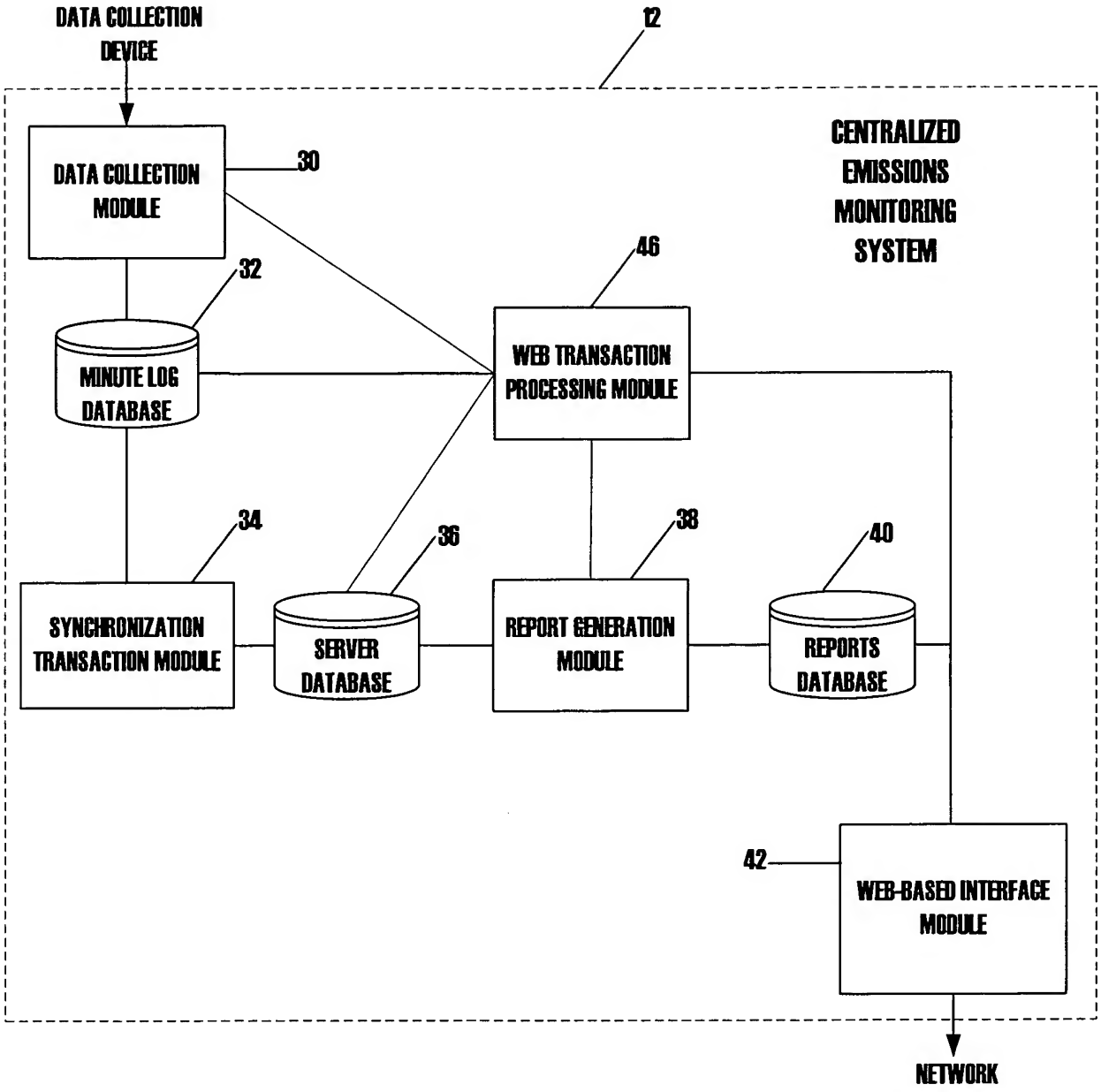

DATA COLLECTION DEVICE
12
CENTRALIZED EMISSIONS MONITORING SYSTEM
DATA COLLECTION MODULE
30
32
MINUTE LOG DATABASE
46
WEB TRANSACTION PROCESSING MODULE
34
SYNCHRONIZATION TRANSACTION MODULE
36
SERVER DATABASE
38
REPORT GENERATION MODULE
40
REPORTS DATABASE
42
WEB-BASED INTERFACE MODULE
NETWORK

FIG. 2

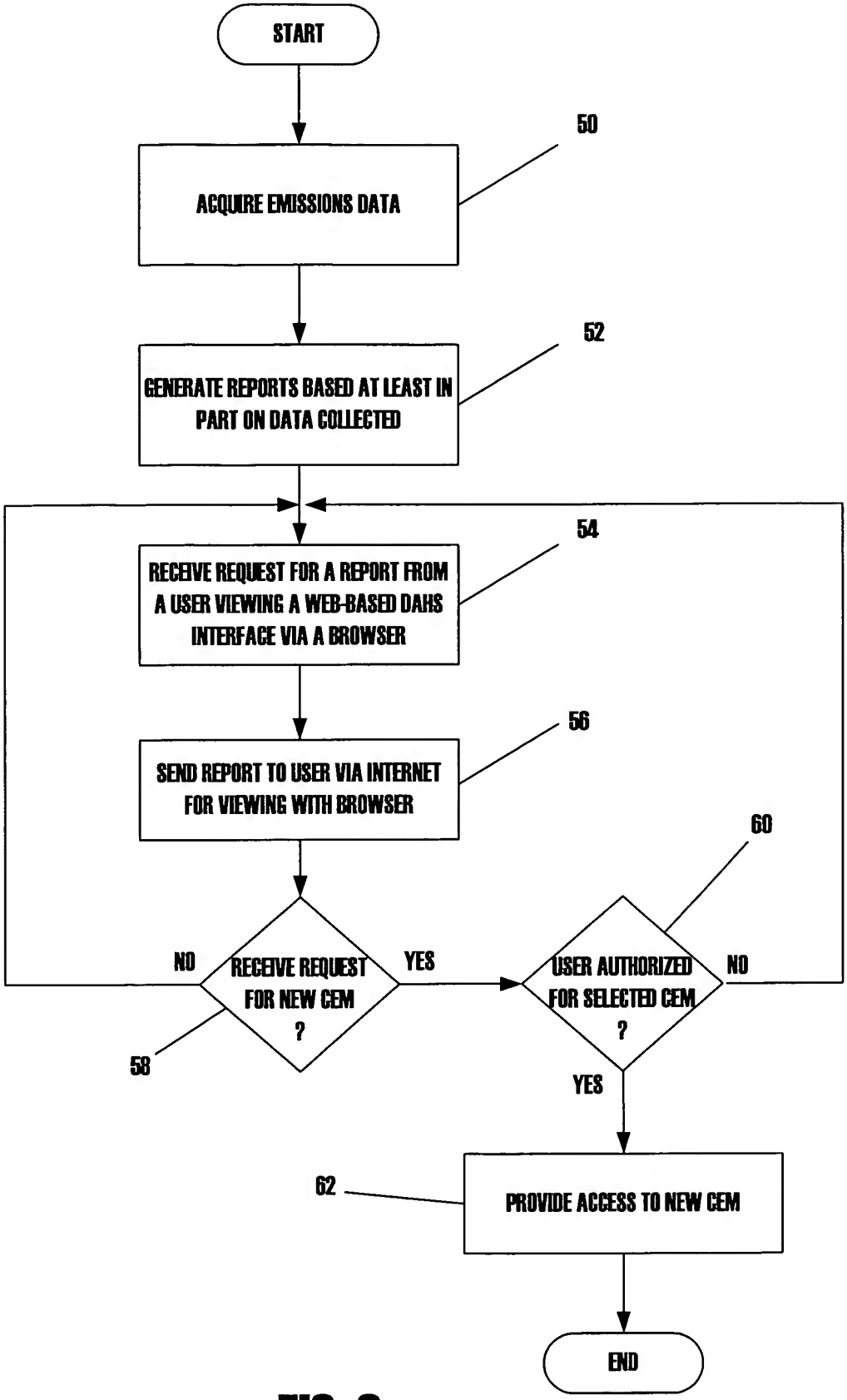

START
50
ACQUIRE EMISSIONS DATA
52
GENERATE REPORTS BASED AT LEAST IN PART ON DATA COLLECTED
54
RECEIVE REQUEST FOR A REPORT FROM A USER VIEWING A WEB-BASED DAHS INTERFACE VIA A BROWSER
56
SEND REPORT TO USER VIA INTERNET FOR VIEWING WITH BROWSER
60
NO
RECEIVE REQUEST FOR NEW CEM ?
YES
USER AUTHORIZED FOR SELECTED CEM ?
NO
58
YES
62
PROVIDE ACCESS TO NEW CEM
END

FIG. 3

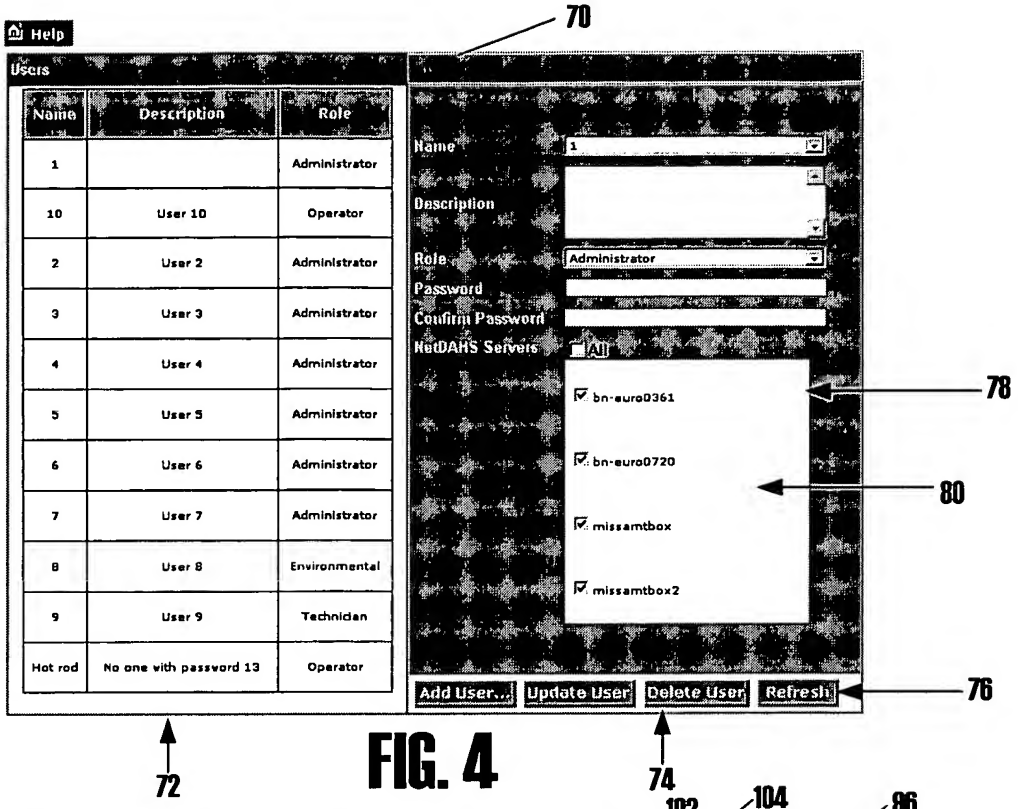

Help
Users
Name
Description
Role
1
Administrator
10
User 10
Operator
2
User 2
Administrator
3
User 3
Administrator
4
User 4
Administrator
5
User 5
Administrator
6
User 6
Administrator
7
User 7
Administrator
8
User 8
Environmental
9
User 9
Technician
Hot rod
No one with password 13
Operator
Name
Description
Role
Administrator
Password
Confirm Password
NetDAHS Servers
All
bn-euro0361
bn-euro0720
missamtbox
missamtbox2
Add User...
Update User
Delete User
Refresh
70
72
74
76
78
80

FIG. 4

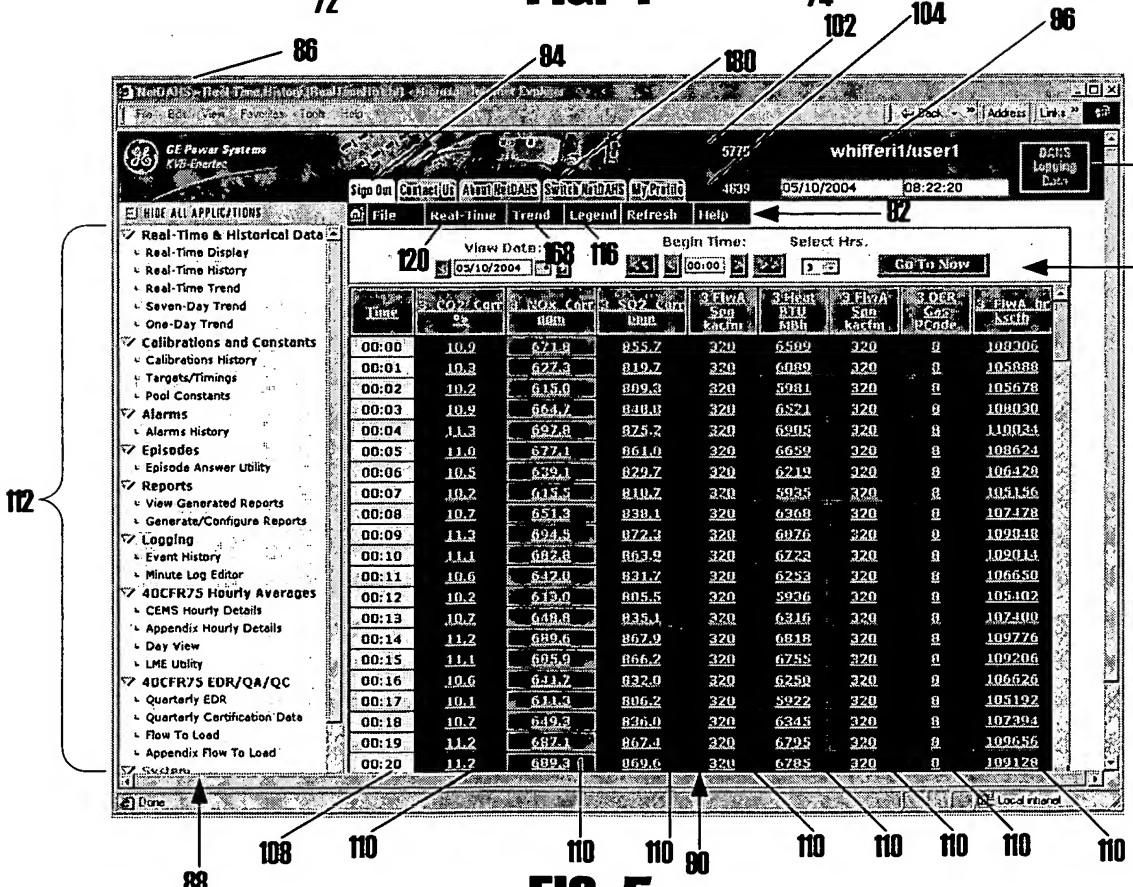
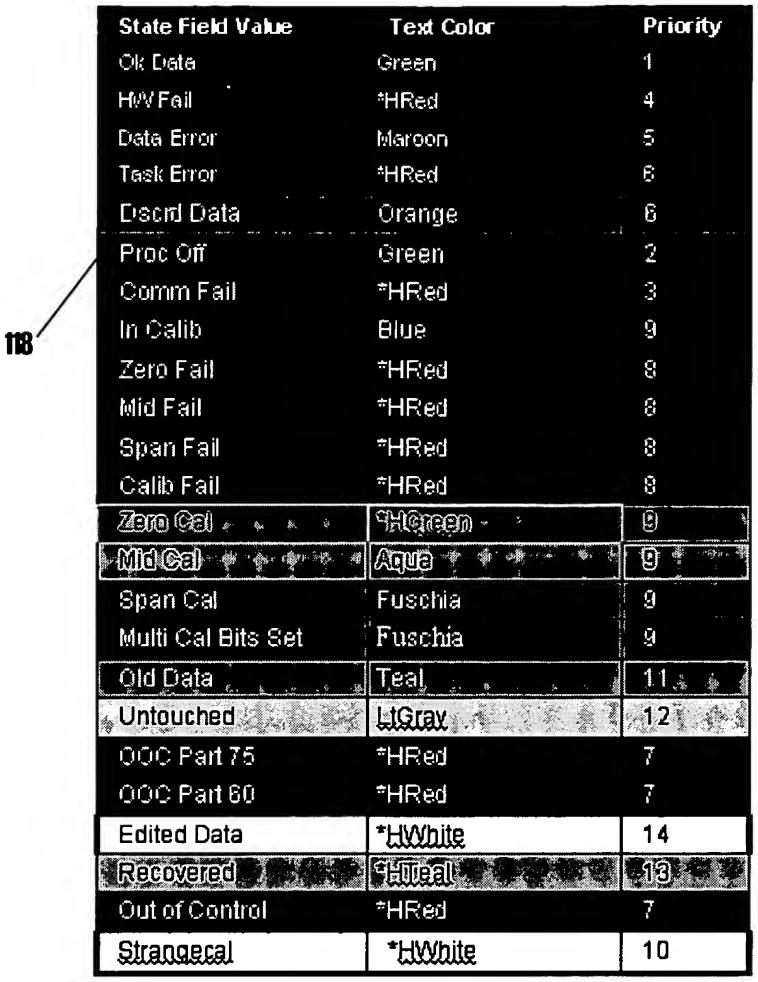

86
84
100
102
104
86
88
82
106
112
108
110
110
110
80
110
110
110
110
110
88
whifferi1/user1
GE Power Systems
KVB-Enertec
Sign Out
Contact Us
About NetDAHS
Switch NetDAHS
My Profile
05/10/2004
08:22:20
DAHS Logging Data
HIDE ALL APPLICATIONS
Real-Time & Historical Data
Real-Time Display
Real-Time History
Real-Time Trend
Seven-Day Trend
One-Day Trend
Calibrations and Constants
Calibrations History
Targets/Timings
Pool Constants
Alarms
Alarms History
Episodes
Episode Answer Utility
Reports
View Generated Reports
Generate/Configure Reports
Logging
Event History
Minute Log Editor
40CFR75 Hourly Averages
CEMS Hourly Details
Appendix Hourly Details
Day View
LME Utility
40CFR75 EDR/QA/QC
Quarterly EDR
Quarterly Certification Data
Flow To Load
Appendix Flow To Load
File
Real-Time
Trend
Legend
Refresh
Help
120
View Date:
168
116
Begin Time:
Select Hrs.
Go To Now
Time
CO2 Corr %
NOx Corr ppm
SO2 Corr ppm
3 FlwA Scm kscfm
3 Heat RTD MBh
3 FlwA Scm kscfm
3 OFR Case PCode
3 FlwA hr kscfh
00:00 10.9 671.8 855.7 320 6509 320 0 108306
00:01 10.8 627.8 819.7 320 6089 320 0 105888
00:02 10.2 615.0 809.3 320 5981 320 0 105678
00:03 10.9 664.7 848.8 320 6521 320 0 108030
00:04 11.3 697.8 875.2 320 6905 320 0 110034
00:05 11.0 677.1 861.0 320 6659 320 0 108624
00:06 10.5 639.1 829.7 320 6219 320 0 106428
00:07 10.2 615.5 810.7 320 5935 320 0 105156
00:08 10.7 651.9 838.1 320 6368 320 0 107478
00:09 11.3 694.5 872.3 320 6876 320 0 109848
00:10 11.1 682.8 863.9 320 6723 320 0 109014
00:11 10.6 642.0 831.7 320 6253 320 0 106650
00:12 10.2 619.0 805.5 320 5936 320 0 105102
00:13 10.7 649.8 835.1 320 6316 320 0 107400
00:14 11.2 689.6 867.9 320 6818 320 0 109776
00:15 11.1 685.0 866.2 320 6755 320 0 109206
00:16 10.6 641.7 832.0 320 6250 320 0 106626
00:17 10.1 611.3 806.2 320 5922 320 0 105192
00:18 10.7 649.3 836.0 320 6345 320 0 107394
00:19 11.2 687.1 867.4 320 6795 320 0 109656
00:20 11.2 689.3 869.6 320 6785 320 0 109128
Done
Local intranet

FIG. 5



State Field Value	Text Color	Priority
Ok Data	Green	1
H/W Fail	*HRed	4
Data Error	Maroon	5
Task Error	*HRed	6
Dscrd Data	Orange	6
Proc Off	Green	2
Comm Fail	*HRed	3
In Calib	Blue	9
Zero Fail	*HRed	8
Mid Fail	*HRed	8
Span Fail	*HRed	8
Calib Fail	*HRed	8
Zero Cal	*HGreen	9
Mid Cal	Aqua	9
Span Cal	Fuschia	9
Multi Cal Bits Set	Fuschia	9
Old Data	Teal	11
Untouched	LtGray	12
OOC Part 75	*HRed	7
OOC Part 60	*HRed	7
Edited Data	*HWhite	14
Recovered	*HTeal	13
Out of Control	*HRed	7
Strangecal	*HWhite	10

* High Intensity

FIG. 6

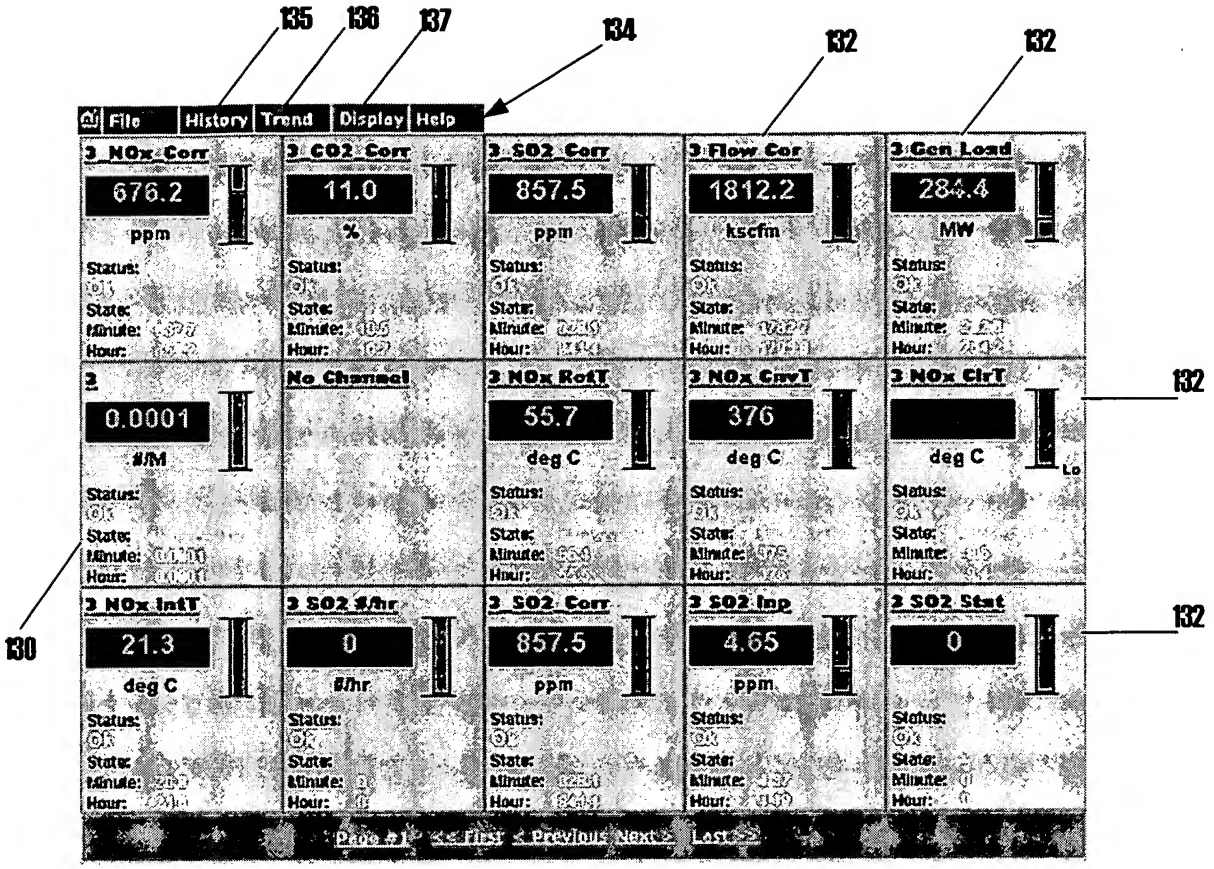

135
136
137
134
132
132
File
History
Trend
Display
Help
3 NOx Corr
676.2
ppm
3 CO2 Corr
11.0
%
3 SO2 Corr
857.5
ppm
3 Flow Cor
1812.2
kscfm
3 Gen Load
284.4
MW
3
0.0001
#/M
No Channel
3 NOx RotT
55.7
deg C
3 NOx CnvT
376
deg C
3 NOx ClrT
deg C
Lo
132
3 NOx IntT
21.3
deg C
3 SO2 #/hr
0
#/hr
3 SO2 Corr
857.5
ppm
3 SO2 Inp
4.65
ppm
3 SO2 Stat
0
132
130
Status:
State:
Minute:
Hour:
Page #1
<< First
< Previous
Next >
Last >>

FIG. 7

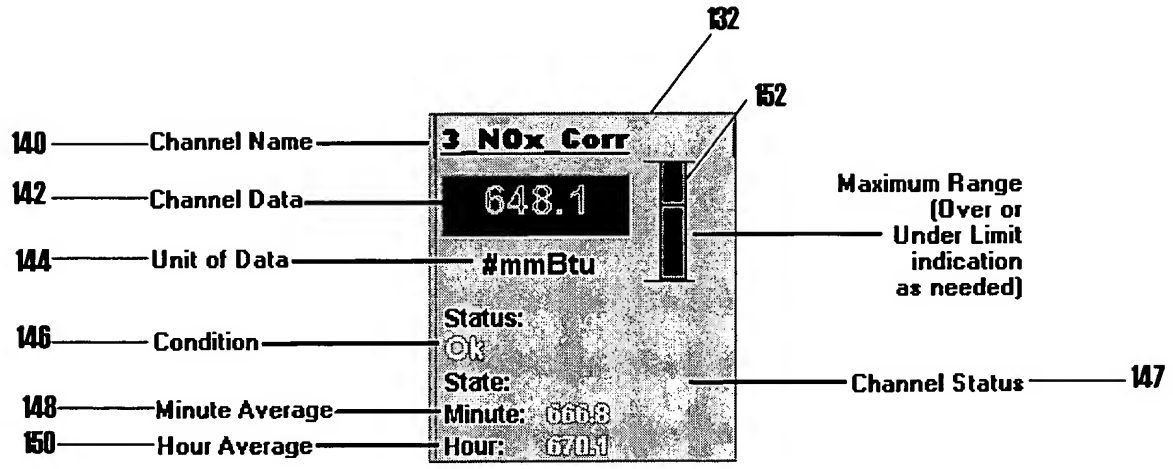

132
152
140
Channel Name
3 NOx Corr
142
Channel Data
648.1
144
Unit of Data
#mmBtu
Maximum Range
(Over or
Under Limit
indication
as needed)
146
Condition
Status:
Ok
State:
148
Minute Average
Minute:
150
Hour Average
Hour:
Channel Status
147

FIG. 8

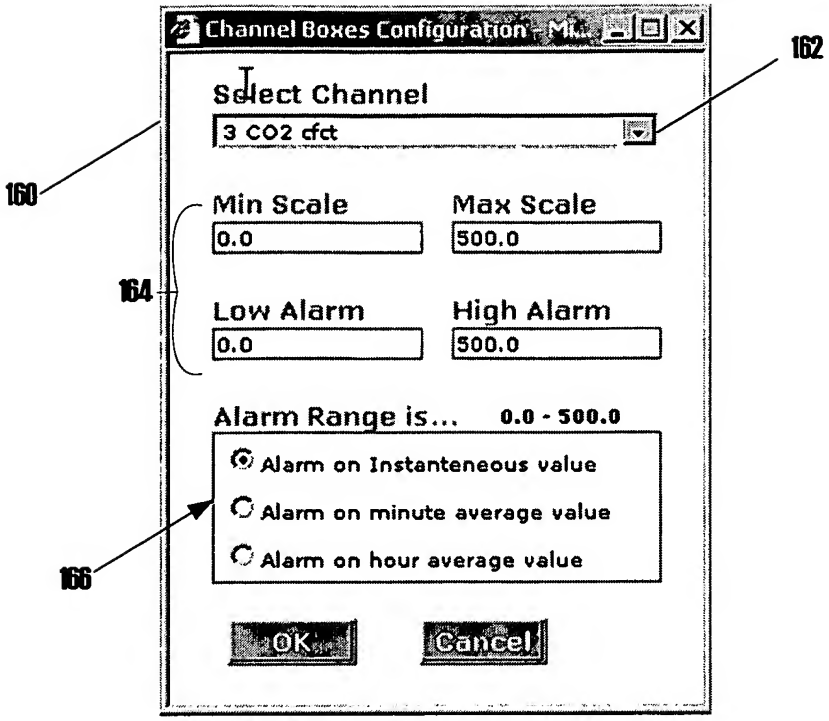
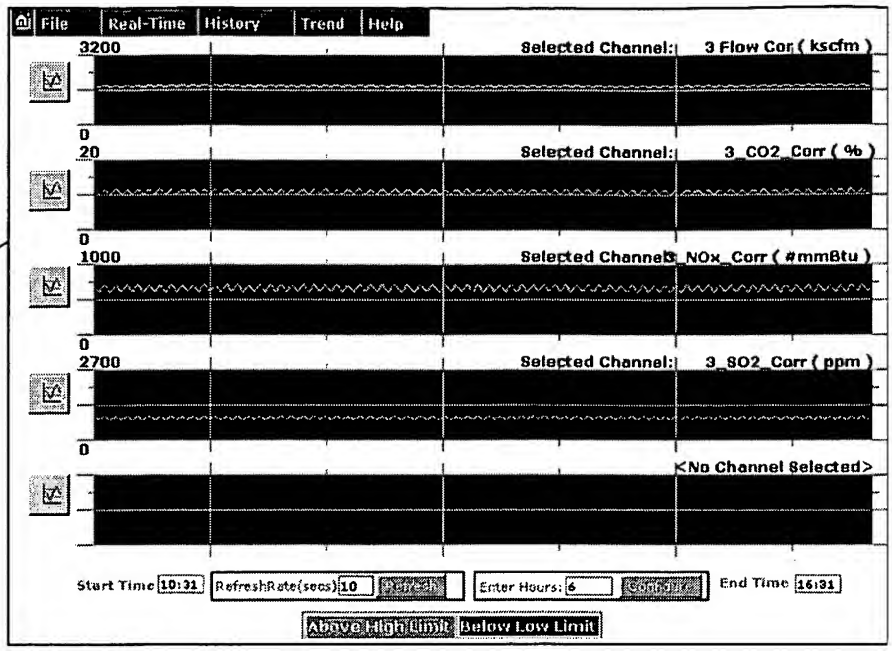
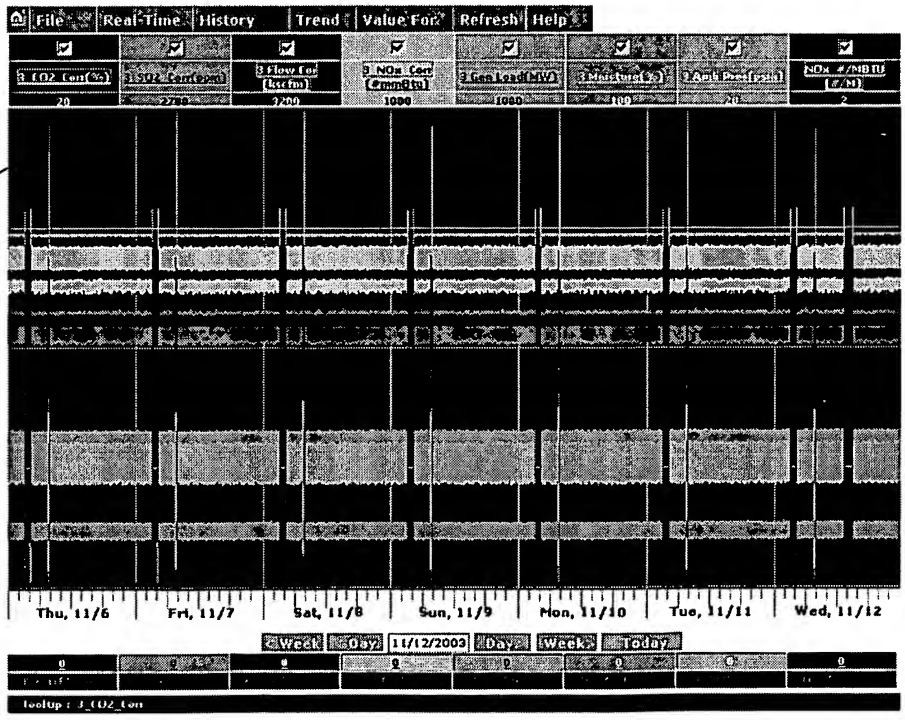

Channel Boxes Configuration
Select Channel
3 CO2 cfct
Min Scale
0.0
Max Scale
500.0
Low Alarm
0.0
High Alarm
500.0
Alarm Range is... 0.0 - 500.0
Alarm on Instanteneous value
Alarm on minute average value
Alarm on hour average value
OK
Cancel
160
162
164
166

FIG. 9



172

FIG. 10



174

FIG. 11

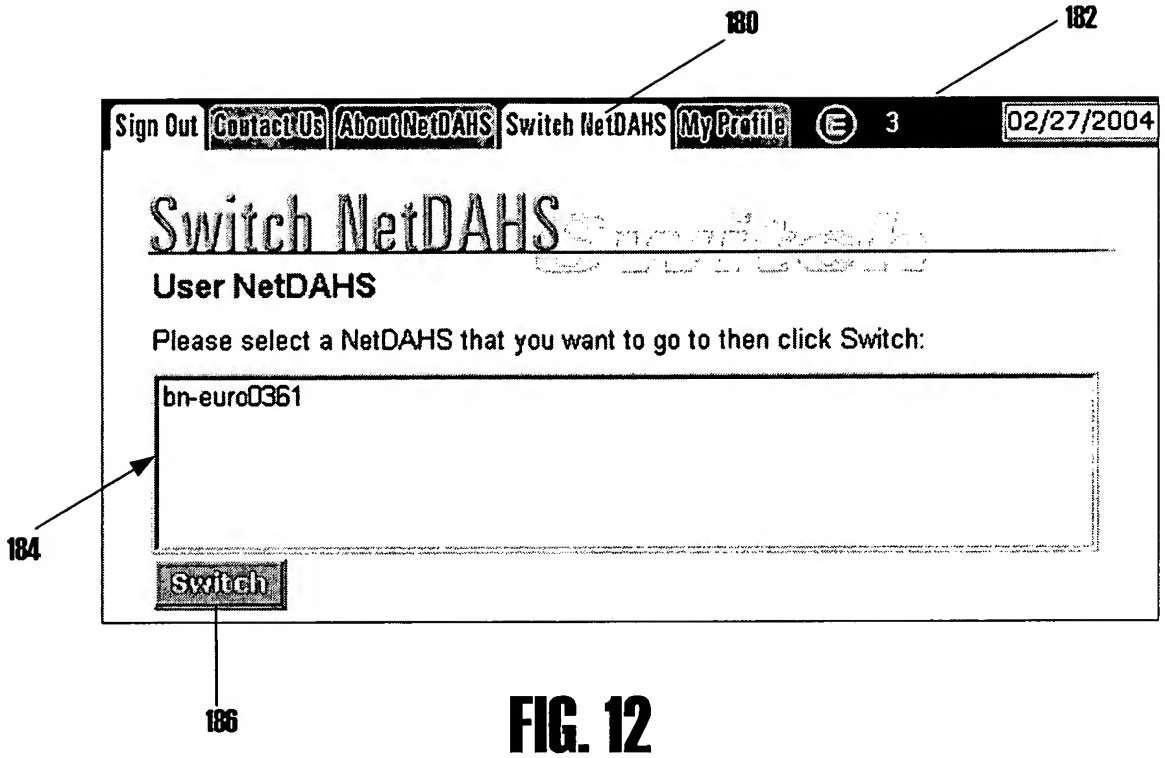

180
182
Sign Out
Contact Us
About NetDAHS
Switch NetDAHS
My Profile
3
02/27/2004
Switch NetDAHS
User NetDAHS
Please select a NetDAHS that you want to go to then click Switch:
bn-euro0361
184
Switch
186

FIG. 12

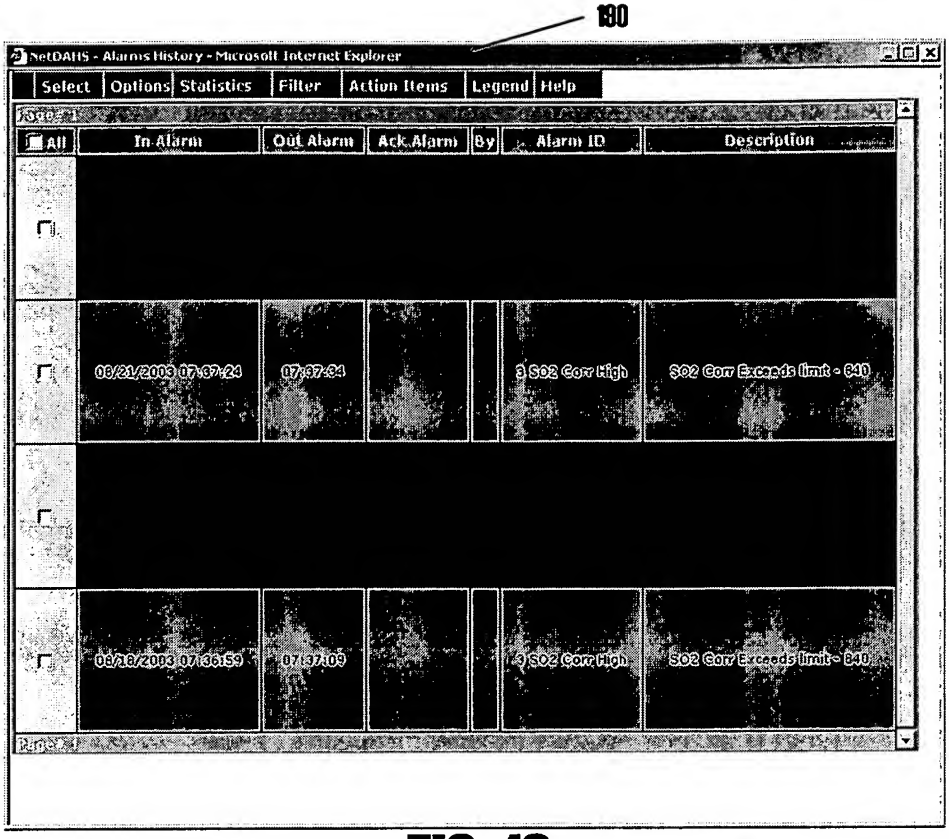

190
NetDAHS - Alarms History - Microsoft Internet Explorer
Select
Options
Statistics
Filter
Action Items
Legend
Help
All
In Alarm
Out Alarm
Ack Alarm
By
Alarm ID
Description
08/21/2003 07:37:24
07:37:24
3 SO2 Corr High
SO2 Corr Exceeds limit - 840
08/18/2003 07:36:59
07:37:09
3 SO2 Corr High
SO2 Corr Exceeds limit - 840

FIG. 13

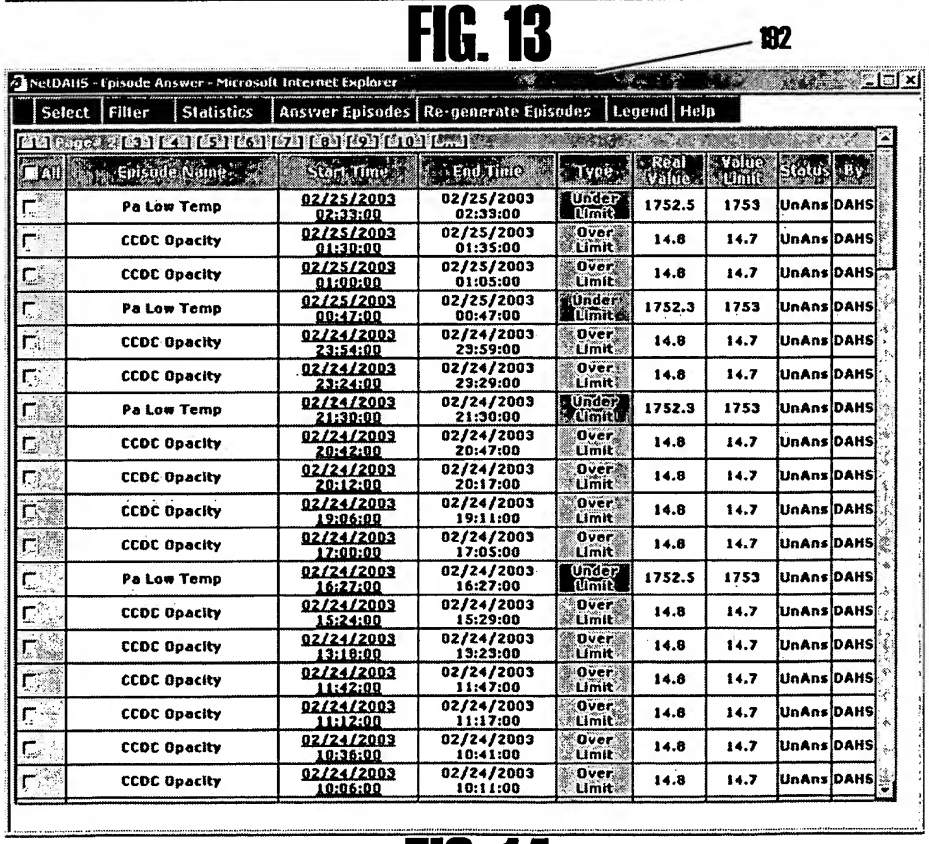

192
NetDAHS - Episode Answer - Microsoft Internet Explorer
Select
Filter
Statistics
Answer Episodes
Re-generate Episodes
Legend
Help
All
Episode Name
Start Time
End Time
Type
Real Value
Value Limit
Status
By
Pa Low Temp 02/25/2003 02:33:00 02/25/2003 02:33:00 Under Limit 1752.5 1753 UnAns DAHS
CCDC Opacity 02/25/2003 01:30:00 02/25/2003 01:35:00 Over Limit 14.8 14.7 UnAns DAHS
CCDC Opacity 02/25/2003 01:00:00 02/25/2003 01:05:00 Over Limit 14.8 14.7 UnAns DAHS
Pa Low Temp 02/25/2003 00:47:00 02/25/2003 00:47:00 Under Limit 1752.3 1753 UnAns DAHS
CCDC Opacity 02/24/2003 23:54:00 02/24/2003 23:59:00 Over Limit 14.8 14.7 UnAns DAHS
CCDC Opacity 02/24/2003 23:24:00 02/24/2003 23:29:00 Over Limit 14.8 14.7 UnAns DAHS
Pa Low Temp 02/24/2003 21:30:00 02/24/2003 21:30:00 Under Limit 1752.3 1753 UnAns DAHS
CCDC Opacity 02/24/2003 20:42:00 02/24/2003 20:47:00 Over Limit 14.8 14.7 UnAns DAHS
CCDC Opacity 02/24/2003 20:12:00 02/24/2003 20:17:00 Over Limit 14.8 14.7 UnAns DAHS
CCDC Opacity 02/24/2003 19:06:00 02/24/2003 19:11:00 Over Limit 14.8 14.7 UnAns DAHS
CCDC Opacity 02/24/2003 17:00:00 02/24/2003 17:05:00 Over Limit 14.8 14.7 UnAns DAHS
Pa Low Temp 02/24/2003 16:27:00 02/24/2003 16:27:00 Under Limit 1752.5 1753 UnAns DAHS
CCDC Opacity 02/24/2003 15:24:00 02/24/2003 15:29:00 Over Limit 14.8 14.7 UnAns DAHS
CCDC Opacity 02/24/2003 13:18:00 02/24/2003 13:23:00 Over Limit 14.8 14.7 UnAns DAHS
CCDC Opacity 02/24/2003 11:42:00 02/24/2003 11:47:00 Over Limit 14.8 14.7 UnAns DAHS
CCDC Opacity 02/24/2003 11:12:00 02/24/2003 11:17:00 Over Limit 14.8 14.7 UnAns DAHS
CCDC Opacity 02/24/2003 10:36:00 02/24/2003 10:41:00 Over Limit 14.8 14.7 UnAns DAHS
CCDC Opacity 02/24/2003 10:06:00 02/24/2003 10:11:00 Over Limit 14.8 14.7 UnAns DAHS

FIG. 14

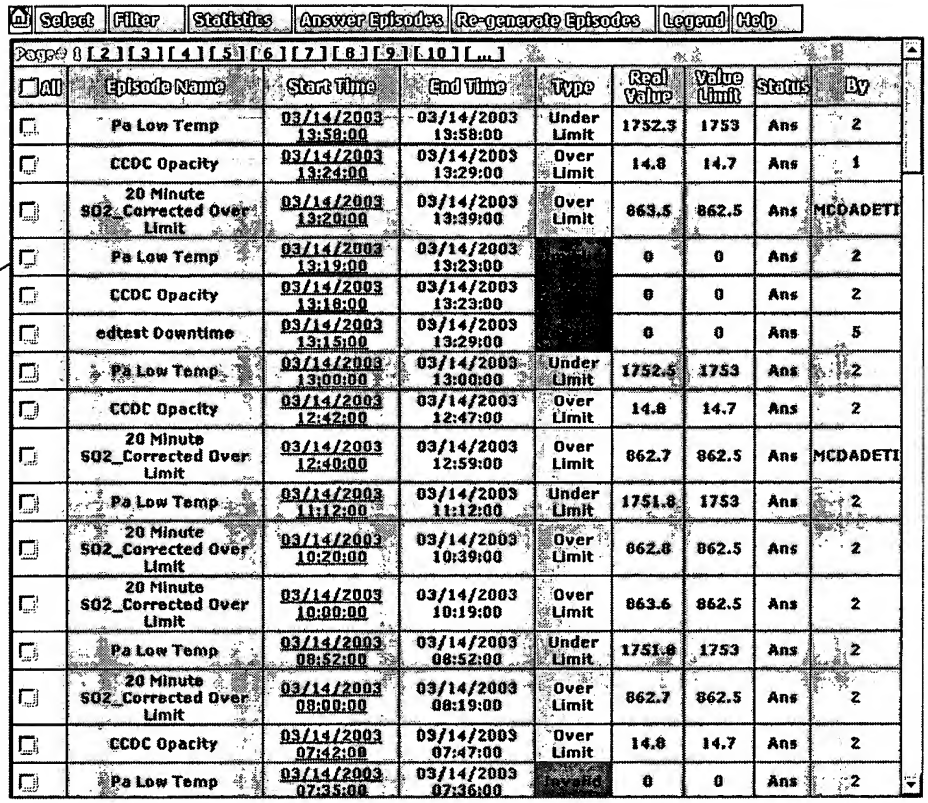

Select
Filter
Statistics
Answer Episodes
Re-generate Episodes
Legend
Help
Page: 1 [2] [3] [4] [5] [6] [7] [8] [9] [10] [...]
All
Episode Name
Start Time
End Time
Type
Real Value
Value Limit
Status
By
Pa Low Temp 03/14/2003 13:58:00 03/14/2003 13:58:00 Under Limit 1752.3 1753 Ans 2
CCDC Opacity 03/14/2003 13:24:00 03/14/2003 13:29:00 Over Limit 14.8 14.7 Ans 1
20 Minute SO2_Corrected Over Limit 03/14/2003 13:20:00 03/14/2003 13:39:00 Over Limit 863.5 862.5 Ans MCDADETI
Pa Low Temp 03/14/2003 13:19:00 03/14/2003 13:23:00 0 0 Ans 2
CCDC Opacity 03/14/2003 13:18:00 03/14/2003 13:23:00 0 0 Ans 2
edtest Downtime 03/14/2003 13:15:00 03/14/2003 13:29:00 0 0 Ans 5
Pa Low Temp 03/14/2003 13:00:00 03/14/2003 13:00:00 Under Limit 1752.5 1753 Ans 2
CCDC Opacity 03/14/2003 12:42:00 03/14/2003 12:47:00 Over Limit 14.8 14.7 Ans 2
20 Minute SO2_Corrected Over Limit 03/14/2003 12:40:00 03/14/2003 12:59:00 Over Limit 862.7 862.5 Ans MCDADETI
Pa Low Temp 03/14/2003 11:12:00 03/14/2003 11:12:00 Under Limit 1751.8 1753 Ans 2
20 Minute SO2_Corrected Over Limit 03/14/2003 10:20:00 03/14/2003 10:39:00 Over Limit 862.8 862.5 Ans 2
20 Minute SO2_Corrected Over Limit 03/14/2003 10:00:00 03/14/2003 10:19:00 Over Limit 863.6 862.5 Ans 2
Pa Low Temp 03/14/2003 08:52:00 03/14/2003 08:52:00 Under Limit 1751.9 1753 Ans 2
20 Minute SO2_Corrected Over Limit 03/14/2003 08:00:00 03/14/2003 08:19:00 Over Limit 862.7 862.5 Ans 2
CCDC Opacity 03/14/2003 07:42:00 03/14/2003 07:47:00 Over Limit 14.8 14.7 Ans 2
Pa Low Temp 03/14/2003 07:35:00 03/14/2003 07:36:00 Invalid 0 0 Ans 2
194

FIG. 15

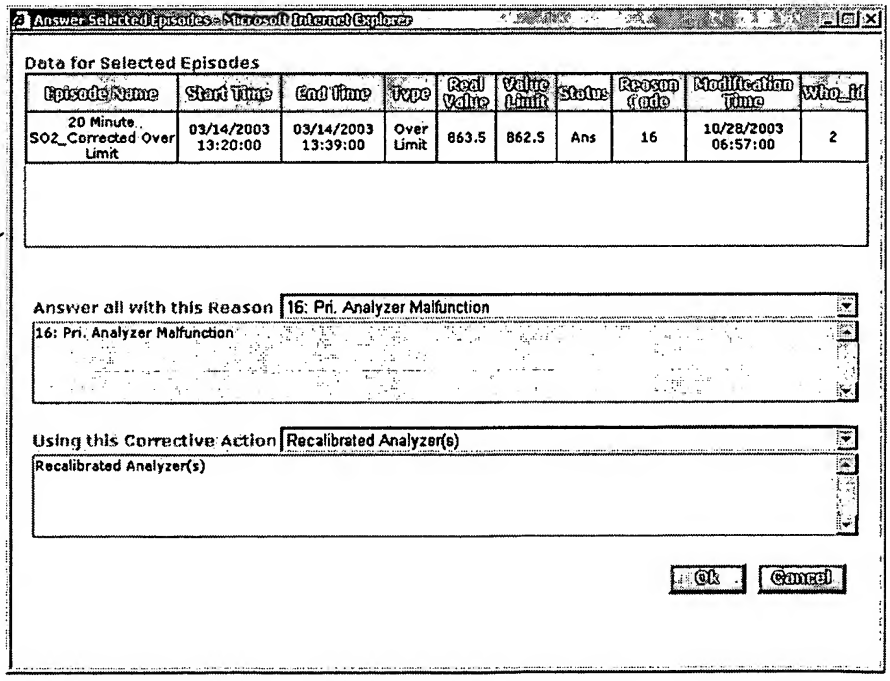
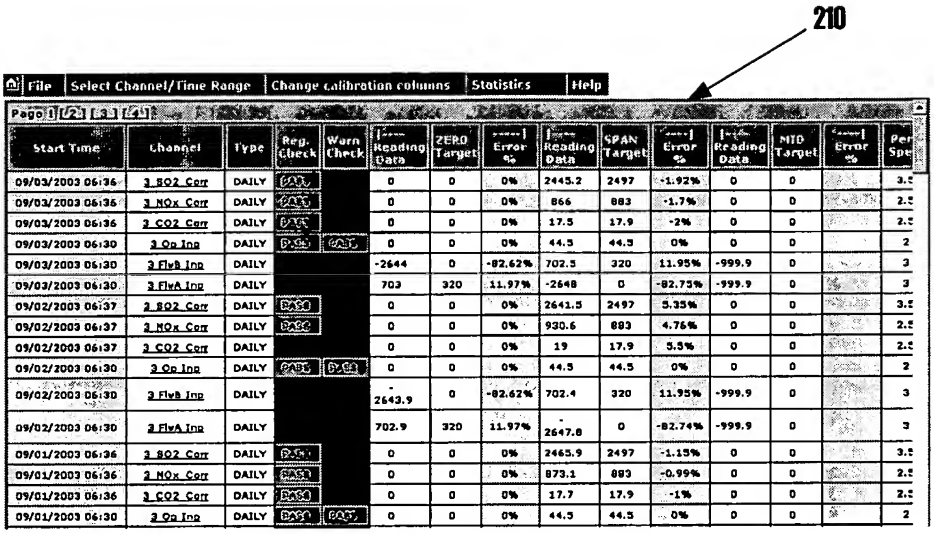
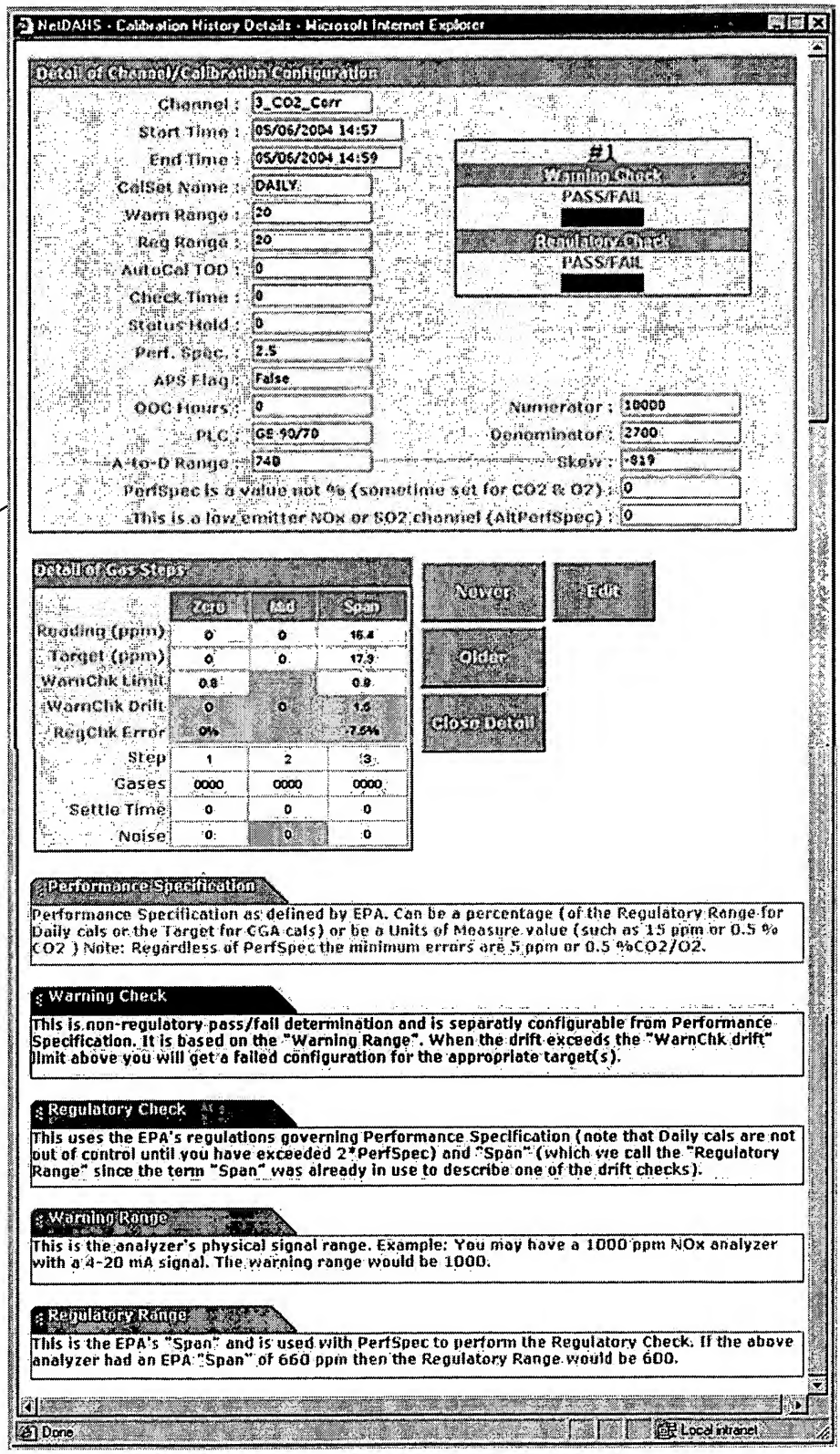

Answer Selected Episodes - Microsoft Internet Explorer
Data for Selected Episodes
Episode Name
Start Time
End Time
Type
Real Value
Value Limit
Status
Reason Code
Modification Time
who_id
20 Minute SO2_Corrected Over Limit 03/14/2003 13:20:00 03/14/2003 13:39:00 Over Limit 863.5 862.5 Ans 16 10/28/2003 06:57:00 2
Answer all with this Reason
16: Pri. Analyzer Malfunction
16: Pri. Analyzer Malfunction
Using this Corrective Action
Recalibrated Analyzer(s)
Recalibrated Analyzer(s)
Ok
Cancel
202

FIG. 16



Start Time	Channel	Type	Reg. Check	Worn Check	Reading Data	ZERO Target	Error %	Reading Data	SPAN Target	Error %	Reading Data	MID Target	Error %	Per Spe
09/03/2003 06:36	3 SO2 Corr	DAILY	PASS		0	0	0%	2445.2	2497	-1.92%	0	0		3.5
09/03/2003 06:36	3 NOx Corr	DAILY	PASS		0	0	0%	866	883	-1.7%	0	0		2.5
09/03/2003 06:36	3 CO2 Corr	DAILY	PASS		0	0	0%	17.5	17.9	-2%	0	0		2.5
09/03/2003 06:30	3 Op Inp	DAILY	PASS	PASS	0	0	0%	44.5	44.5	0%	0	0		2
09/03/2003 06:30	3 FlwB Inp	DAILY			-2644	0	-82.62%	702.5	320	11.95%	-999.9	0		3
09/03/2003 06:30	3 FlwA Inp	DAILY			703	320	11.97%	-2648	0	-82.75%	-999.9	0		3
09/02/2003 06:37	3 SO2 Corr	DAILY	PASS		0	0	0%	2641.5	2497	5.35%	0	0		3.5
09/02/2003 06:37	3 NOx Corr	DAILY	PASS		0	0	0%	930.6	883	4.76%	0	0		2.5
09/02/2003 06:37	3 CO2 Corr	DAILY			0	0	0%	19	17.9	5.5%	0	0		2.5
09/02/2003 06:30	3 Op Inp	DAILY	PASS	PASS	0	0	0%	44.5	44.5	0%	0	0		2
09/02/2003 06:30	3 FlwB Inp	DAILY			-2643.9	0	-82.62%	702.4	320	11.95%	-999.9	0		3
09/02/2003 06:30	3 FlwA Inp	DAILY			702.9	320	11.97%	-2647.8	0	-82.74%	-999.9	0		3
09/01/2003 06:36	3 SO2 Corr	DAILY	PASS		0	0	0%	2465.9	2497	-1.15%	0	0		3.5
09/01/2003 06:36	3 NOx Corr	DAILY	PASS		0	0	0%	873.1	883	-0.99%	0	0		2.5
09/01/2003 06:36	3 CO2 Corr	DAILY	PASS		0	0	0%	17.7	17.9	-1%	0	0		2.5
09/01/2003 06:30	3 Op Inp	DAILY	PASS	PASS	0	0	0%	44.5	44.5	0%	0	0		2

FIG. 17


NetDAHS - Calibration History Details - Microsoft Internet Explorer
Detail of Channel/Calibration Configuration
Channel : 3_CO2_Corr
Start Time : 05/06/2004 14:57
End Time : 05/06/2004 14:59
CalSet Name : DAILY
Warn Range : 20
Reg Range : 20
AutoCal TOD : 0
Check Time : 0
Status Hold : 0
Perf. Spec. : 2.5
APS Flag : False
OOC Hours : 0
PLC : GE 90/70
A-to-D Range : 748
PerfSpec is a value not % (sometime set for CO2 & O2) : 0
This is a low emitter NOx or SO2 channel (AltPerfSpec) : 0
#1
Warning Check
PASS/FAIL
Regulatory Check
PASS/FAIL
Numerator : 10000
Denominator : 2700
Skew : -919
Detail of Gas Steps
Zero
Mid
Span
Reading (ppm) 0 0 16.4
Target (ppm) 0 0 17.9
WarnChk Limit 0.8 0.9
WarnChk Drift 0 0 1.5
RegChk Error 0% 7.5%
Step 1 2 3
Gases 0000 0000 0000
Settle Time 0 0 0
Noise 0 0 0
Newer
Edit
Older
Close Detail
Performance Specification
Performance Specification as defined by EPA. Can be a percentage (of the Regulatory Range for Daily cals or the Target for CGA cals) or be a Units of Measure value (such as 15 ppm or 0.5 % CO2) Note: Regardless of PerfSpec the minimum errors are 5 ppm or 0.5 %CO2/O2.
Warning Check
This is non-regulatory pass/fail determination and is separatly configurable from Performance Specification. It is based on the "Warning Range". When the drift exceeds the "WarnChk drift" limit above you will get a failed configuration for the appropriate target(s).
Regulatory Check
This uses the EPA's regulations governing Performance Specification (note that Daily cals are not out of control until you have exceeded 2*PerfSpec) and "Span" (which we call the "Regulatory Range" since the term "Span" was already in use to describe one of the drift checks).
Warning Range
This is the analyzer's physical signal range. Example: You may have a 1000 ppm NOx analyzer with a 4-20 mA signal. The warning range would be 1000.
Regulatory Range
This is the EPA's "Span" and is used with PerfSpec to perform the Regulatory Check. If the above analyzer had an EPA "Span" of 660 ppm then the Regulatory Range would be 600.
Done
Local intranet

220

FIG. 18

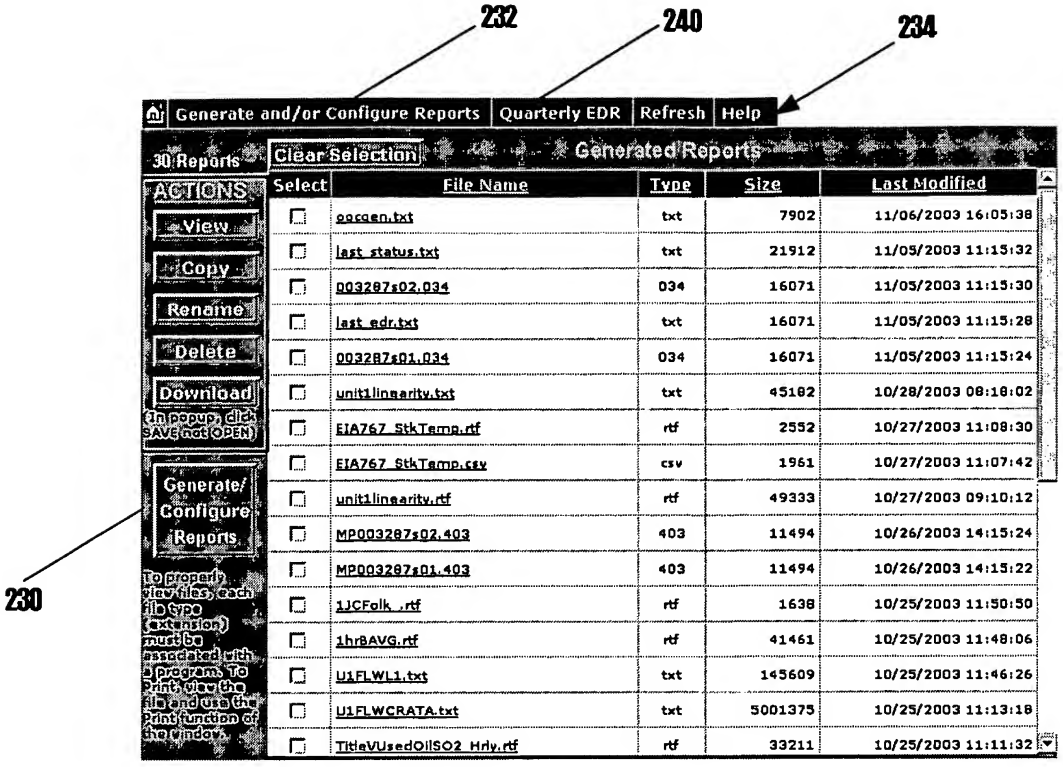

232
240
234
Generate and/or Configure Reports
Quarterly EDR
Refresh
Help
30 Reports
Clear Selection
Generated Reports
ACTIONS
View
Copy
Rename
Delete
Download
(In popup, click SAVE not OPEN)
Generate/ Configure Reports
To properly view files, each file type (extension) must be associated with a programs. To Print, view the file and use the Print function of the viewer.
230
Select
File Name
Type
Size
Last Modified
gocgen.txt txt 7902 11/06/2003 16:05:38
last_status.txt txt 21912 11/05/2003 11:15:32
003287s02.034 034 16071 11/05/2003 11:15:30
last_edr.txt txt 16071 11/05/2003 11:15:28
003287s01.034 034 16071 11/05/2003 11:15:24
unit1linearity.txt txt 45182 10/28/2003 08:18:02
EIA767_StkTemp.rtf rtf 2552 10/27/2003 11:08:30
EIA767_StkTemp.csv csv 1961 10/27/2003 11:07:42
unit1linearity.rtf rtf 49333 10/27/2003 09:10:12
MP003287s02.403 403 11494 10/26/2003 14:15:24
MP003287s01.403 403 11494 10/26/2003 14:15:22
1JCFolk_.rtf rtf 1638 10/25/2003 11:50:50
1hrBAVG.rtf rtf 41461 10/25/2003 11:48:06
U1FLWL1.txt txt 143609 10/25/2003 11:46:26
U1FLWCRATA.txt txt 5001375 10/25/2003 11:13:18
TitleVUsedOilSO2_Hrly.rtf rtf 33211 10/25/2003 11:11:32

FIG. 19

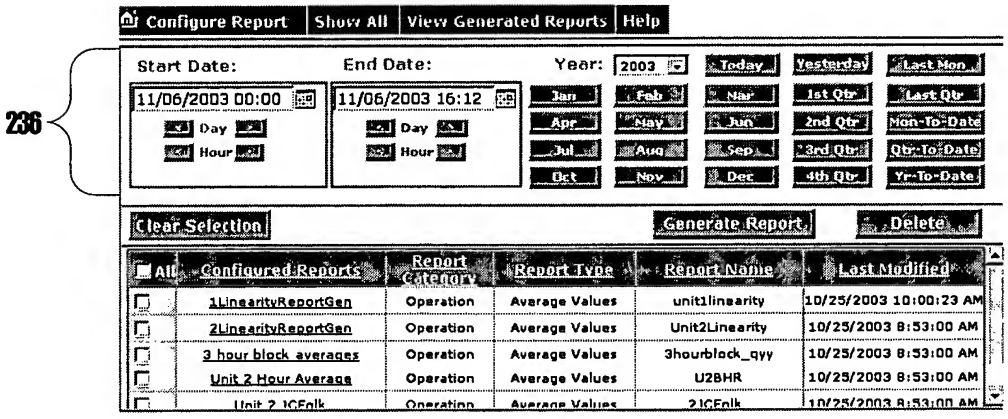

Configure Report
Show All
View Generated Reports
Help
Start Date:
End Date:
Year:
2003
11/06/2003 00:00
11/06/2003 16:12
Day
Hour
Today
Yesterday
Last Mon
Jan
Feb
Mar
1st Qtr
Last Qtr
Apr
May
Jun
2nd Qtr
Mon-To-Date
Jul
Aug
Sep
3rd Qtr
Qtr-To-Date
Oct
Nov
Dec
4th Qtr
Yr-To-Date
236
Clear Selection
Generate Report
Delete
All
Configured Reports
Report Category
Report Type
Report Name
Last Modified
1LinearityReportGen Operation Average Values unit1linearity 10/25/2003 10:00:23 AM
2LinearityReportGen Operation Average Values Unit2Linearity 10/25/2003 8:53:00 AM
3 hour block averages Operation Average Values 3hourblock_qyy 10/25/2003 8:53:00 AM
Unit 2 Hour Average Operation Average Values U2BHR 10/25/2003 8:53:00 AM
Unit 2 JCFolk Operation Average Values 2JCFolk 10/25/2003 8:53:00 AM

FIG. 20

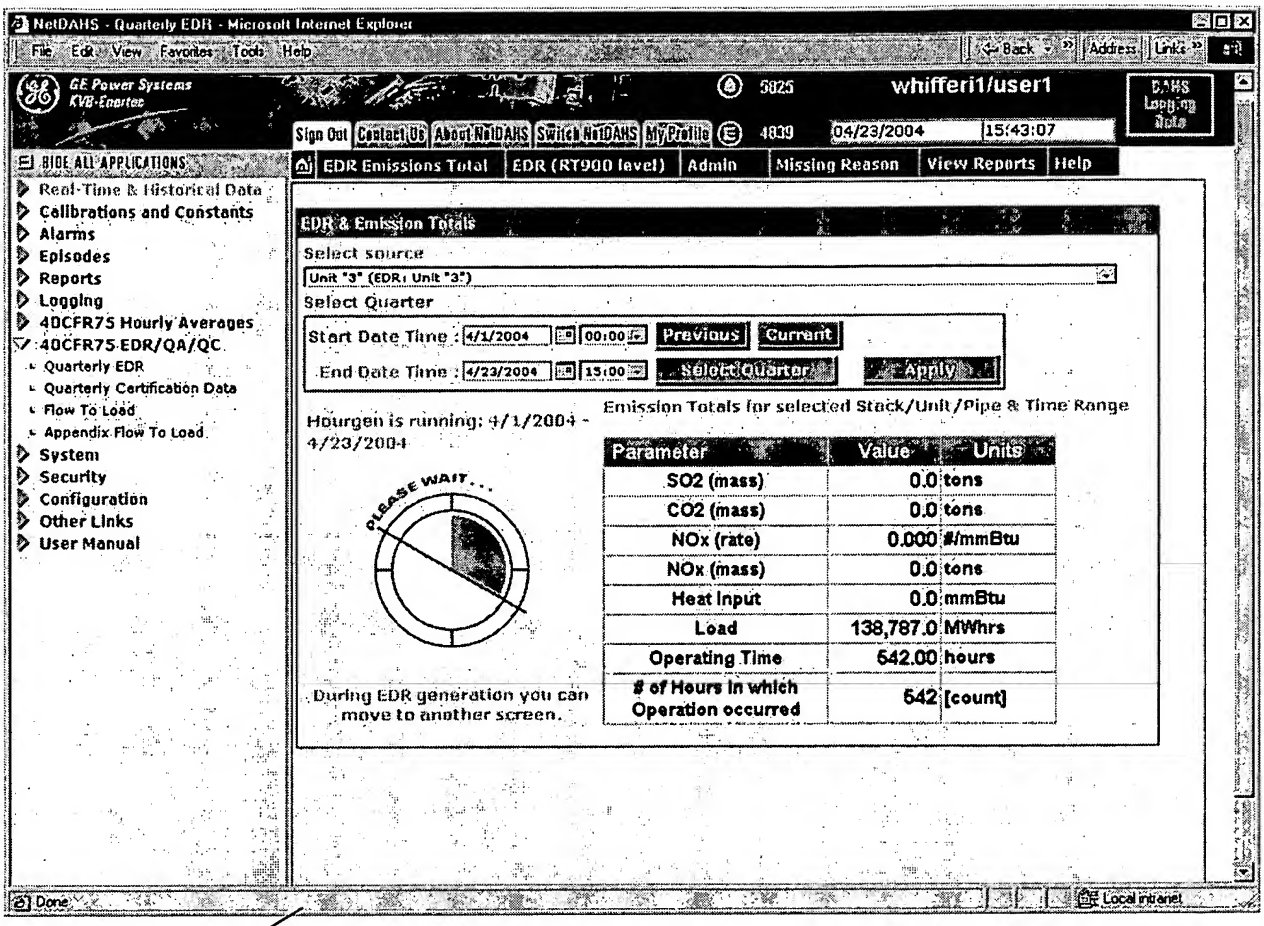

NetDAHS - Quarterly EDR - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Address Links
GE Power Systems
KVB-Enertec
5025
whifferi1/user1
DAHS Logging Data
Sign Out
Contact Us
About NetDAHS
Switch NetDAHS
My Profile
4839
04/23/2004
15:43:07
HIDE ALL APPLICATIONS
Real-Time & Historical Data
Calibrations and Constants
Alarms
Episodes
Reports
Logging
40CFR75 Hourly Averages
40CFR75 EDR/QA/QC
Quarterly EDR
Quarterly Certification Data
Flow To Load
Appendix Flow To Load
System
Security
Configuration
Other Links
User Manual
EDR Emissions Total
EDR (RT900 level)
Admin
Missing Reason
View Reports
Help
EDR & Emission Totals
Select source
Unit "3" (EDR: Unit "3")
Select Quarter
Start Date Time : 4/1/2004 00:00
End Date Time : 4/23/2004 15:00
Previous
Current
Select Quarter
Apply
Hourgen is running; 4/1/2004 - 4/23/2004
PLEASE WAIT...
During EDR generation you can move to another screen.
Emission Totals for selected Stack/Unit/Pipe & Time Range
Parameter | Value | Units
SO2 (mass) | 0.0 | tons
CO2 (mass) | 0.0 | tons
NOx (rate) | 0.000 | #/mmBtu
NOx (mass) | 0.0 | tons
Heat Input | 0.0 | mmBtu
Load | 138,787.0 | MWhrs
Operating Time | 542.00 | hours
# of Hours in which Operation occurred | 542 | [count]
Done
Local intranet
242

FIG. 21

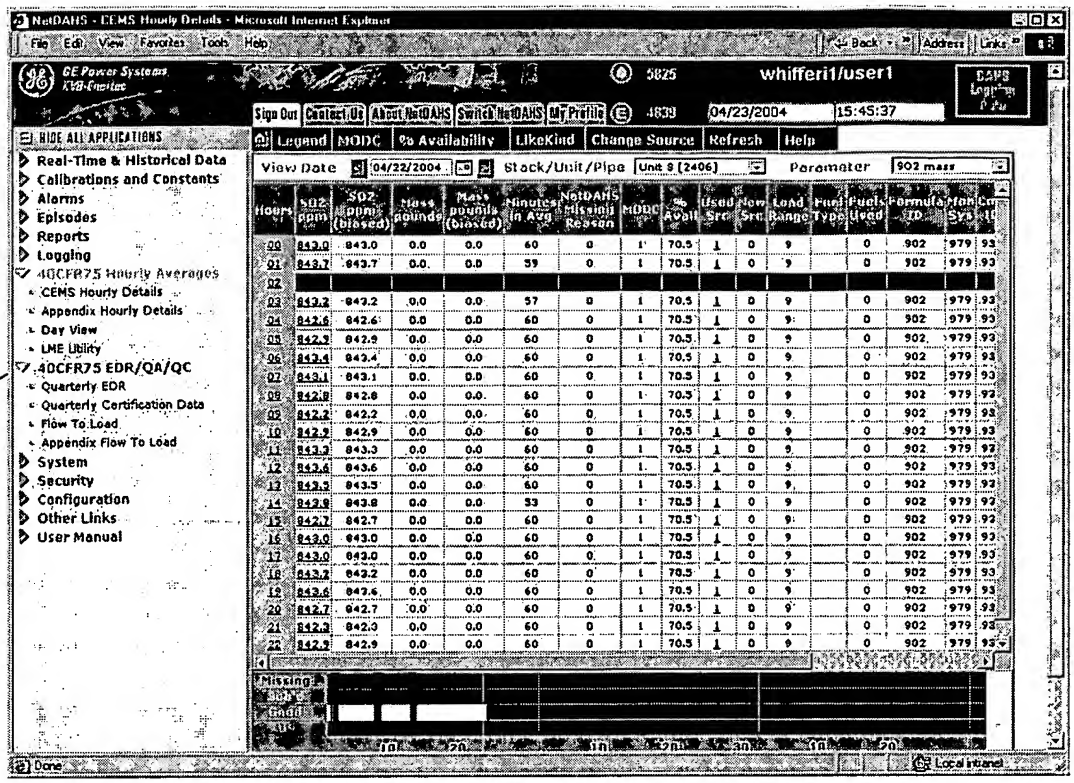

250
whifferi1/user1
04/23/2004
15:45:37
HIDE ALL APPLICATIONS
Real-Time & Historical Data
Calibrations and Constents
Alarms
Episodes
Reports
Logging
40CFR75 Hourly Averages
CEMS Hourly Details
Appendix Hourly Details
Day View
LME Utility
40CFR75 EDR/QA/QC
Quarterly EDR
Quarterly Certification Data
Flow To Load
Appendix Flow To Load
System
Security
Configuration
Other Links
User Manual

FIG. 22

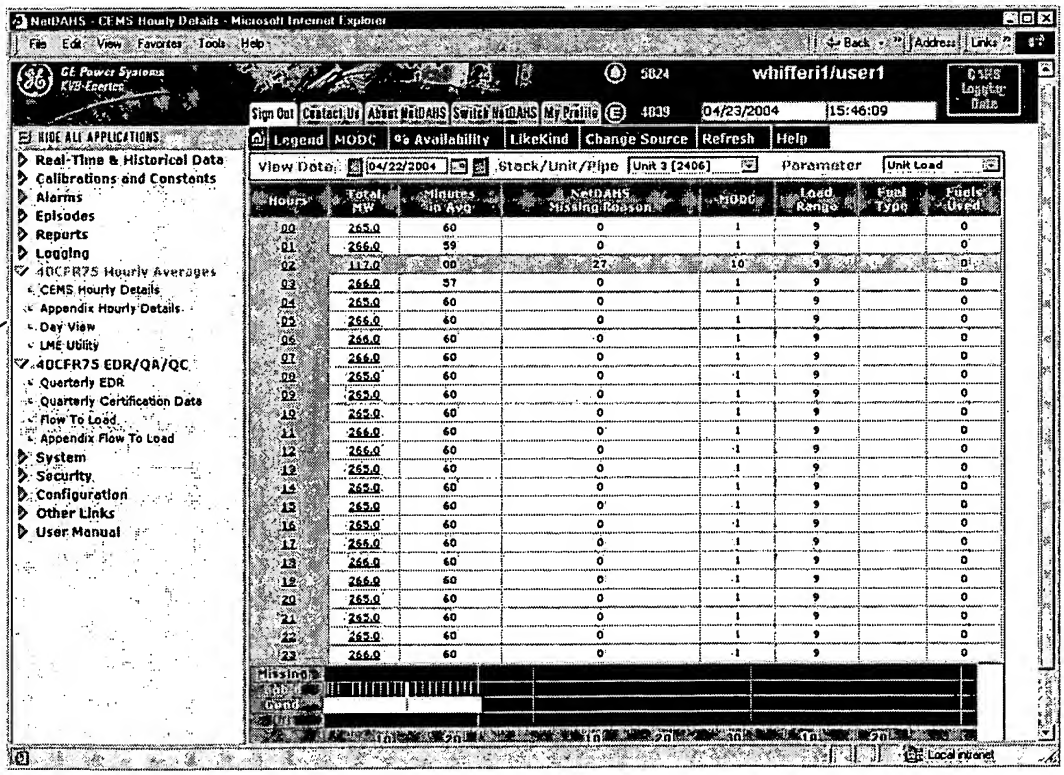

252
whifferi1/user1
04/23/2004
15:46:09
HIDE ALL APPLICATIONS
Real-Time & Historical Data
Calibrations and Constents
Alarms
Episodes
Reports
Logging
40CFR75 Hourly Averages
CEMS Hourly Details
Appendix Hourly Details
Day View
LME Utility
40CFR75 EDR/QA/QC
Quarterly EDR
Quarterly Certification Data
Flow To Load
Appendix Flow To Load
System
Security
Configuration
Other Links
User Manual

FIG. 23